

Pest Update (October 20-27, 2010)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insect from other states. If you live outside of South Dakota and have a question, please send a digital picture of the pest or problem instead. **Walnut samples may not be sent in from any location – please provide a picture instead.**

Available on the net at:

<http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx>

Any treatment recommendations, including those identifying specific pesticides, are for the convenience of the reader. Pesticides mentioned in this publication are generally those that are most commonly available to the public in South Dakota and the inclusion of a product shall not be taken as an endorsement or the exclusion a criticism regarding effectiveness. Please read and follow all label instructions and the label is the final authority for a product's use on a particular pest or plant. Products requiring a commercial pesticide license are occasionally mentioned if there are limited options available. These products will be identified as such but it is the reader's responsibility to determine if they can legally apply any product identified in this publication.

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Current concerns



What is wrong with my spruce tree? Now there is a surprising question! All kidding aside, spruce account for most of the samples that appear in my office. This is due to two reasons; the popularity of spruce, particularly Colorado blue spruce, in windbreaks and the home landscape and spruce are host to a multitude of stressors include mites, insects, pathogens and numerous abiotic problems.



Two samples are common at this time of year, one involving abiotic stressors and the other the spruce spider mite. The mite has been discussed in a number of previous *Updates* but as a refresher if you notice fine webbing on the needles and debris along twig and the base of the needles (also giving the tree a dirty or dusty appearance) then a likely suspect is spruce spider mites. If the needles have tiny yellow spots, stippling, this is another common symptom associated with the feeding activity of the mite. Another common symptom with mites, insect and most foliage pathogens that affect spruce is the needles are damaged – usually discoloration – but the buds are still plump and alive.



The other problem, and far more difficult to determine the stressor or stressors, are abiotic stressors. Spruce suffer from numerous environmental problems ranging from soil related, typically droughty soils or poorly-drained ones, to weather related, frost damage or winter burn. These stressors often cause the older foliage to become discolored and drop prematurely. Sometimes the entire branch is killed. The most common abiotic stressor this year was poorly drained soil and there are many spruce exhibiting symptoms of this stress, purplish needs. However the symptoms for abiotic stresses are very similar and often times to determine the abiotic stress requires a site visit as the problem cannot be identified from a twig.

It's the season when folks are buying firewood.

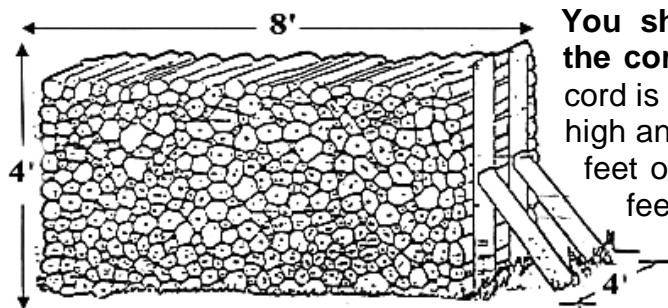
All firewood is not the same. Tree species differ in the heat value of their wood as well as the color of the flame, fragrance and amount of sparks. Crabapple and apple have one of the prettiest flames and maple one of the smokiest, while

cottonwood goes to ash fairly quickly. Pine and spruce produce a lot of sparks. Apple has a nice fragrance and some woods, such as catalpa, can even have a bad odor. The most important factor for many homeowners is not the color or fragrance but the heat so here is the ranking of fuelwoods in million BTUs per cord of seasoned wood.

Species	BTUs ¹ (million per cord)	smoke	sparks
Bur oak	25	Low	Few
Mulberry	25	Moderate	Many
Honeylocust	24	Low	Few
Sugar maple	24	Heavy	None to few
Black walnut	22	Low	None
Apple and Crabapple	21	Low	Few
Birch	21	Moderate	Few
Redcedar/Rocky Mt Juniper	21	Moderate	Many
Green ash	20	Low	Few
Hackberry	20	Low	Few
American elm	19	Moderate	Few
Boxelder	17	Moderate	Few
Willow	17	Low	Few
Spruce	16	Low	Many
Ponderosa pine	15	Moderate	Moderate
Aspen	14	Moderate	None to few
Cottonwood	14	Moderate	Few
Basswood	13	Moderate	Few

¹ BTU stands for British thermal unit, the unit of energy required to increase the temperature of one pound of water from 60 to 61°F. A gallon of propane is the equivalent of 100,000 BTU's so a cord of green ash has the heat equivalent of about 200 gallons of propane.

As you can see from the list, oak is going to generate almost twice the heat as basswood or cottonwood so you can expect to pay much more for oak. Sales of 'mixed hardwood' often contain mostly cottonwood with a little ash – its mostly go'fer wood meaning you are always "going for" more as it burns quickly! Cottonwoods are best for kindling as they burn readily but to keep the fire going oaks and honeylocust are among the best.



You should always buy firewood by the cord or as a fraction of a cord. A cord is a stack of wood 4 feet wide, 4 feet high and 8 feet long containing 128 cubic feet of space and about 70 to 80 cubic feet of solid wood. If you buy firewood by the cord you are purchasing a known quantity of wood. If you buy by the pick-up

load or face cord, you getting a range of possibilities and it will be difficult to make comparisons among seller. Most pick-ups with a 6-foot bed hold about a fourth or fifth of a cord while an 8-foot bed may hold a third of a cord. A face cord usually contains about one-fourth to one-third a cord but this can vary among sellers. You can find pick-up loads of wood being advertised for around \$100 while a cord may cost \$300 or even more depending upon the species. A pick-up load may sound like the better bargain since it is cheaper but remember you are getting about three to five times the amount of wood with a cord.

Be sure to buy seasoned firewood. This is wood that has been split and stored off the ground and protected from the elements for about nine months. After this time it will have moisture content of less than 28 percent so it should burn long and hot rather than steam and smoke in the fireplace.

Some other trivia facts on firewood. One in four homes in South Dakota has a fireplace or woodstove, though about one out of six actually use them. The typical home uses wood as a back-up source of heat or burns for pleasure rather than as their primary source of heat or cooking. They burn about 1.35 cords per year. In South Dakota, woodstoves are more popular than fireplaces as a heating source. The most common hardwood we burn is ash, about 22,000 cords a year, followed by elm at 18,600 cords and cottonwood at 15,000 cords. We also burn about 15,000 cords of pine annually.

Finally buy any firewood from local sources. The most likely potential source of emerald ash borer, an invasive insect already responsible for the loss of more than 40 million ash trees across the Midwest, is from out-of-state firewood. Purchasing firewood that has been harvested within the state is one of the best means of preventing the introduction of this insect to our state's forests.

E-samples



I have a great picture of spruce bud scale. This is a common pest of spruce, particularly Black Hills spruce and Norway spruce. The insect is often confused with a bud as it is a sessile insect that lives in the whorls where the lateral shoots are attached to the branch terminals. These small reddish-brown globular insects are often associated with the decline of the lower branches of spruce and are just one of many stressors. This insect can be managed with an application of a pesticide containing acephate or carbaryl as the active ingredient. The application should be made in mid-June about the time the littleleaf lindens are in bloom as this is about the time the new crawlers hatch and begin moving to new sites on the twigs.



I also received this picture of sapsucker injury on an elm. This injury is easily identified by the rows of shallow, oval-shaped holes “drilled” in neat patterns around the stem. Sapsuckers are a bird, not a “bug” and their damage is usually very limited. The sapsucker is a member of the woodpecker family and this group of birds lives by feeding on tree sap and the insect that inhabit that same zone of the tree. Typically the holes do not harm the tree but if the rows are extensive, as we have seen on young oaks during the past few years, the holes can girdle the stem interrupting the flow of sugars from the canopy to the roots.

The problem is not easily stopped once the birds have decided that the tree is tasty. Usually wrapping the affected area in burlap will discourage further damage. However the burlap must be frequently checked to ensure that it does not girdle the tree as well. Sticky repellents, such as Tanglefoot, may also be applied around tree just above the top row and below the

Samples received

Gregory County
ponderosa pine tree?

What is wrong with this

The needles are infected with the foliar disease dothistroma needle blight. This is a similar disease to diplodia tip blight except only the needles are affected rather than the shoot tips so the typical symptom pattern differs. Dothistroma symptoms often appear in mid-summer or even early fall. The needles develop yellow and tan spots that have a yellow halo. Oftentimes the needle tip will turn brown but the base of the needle will remain green. The disease symptoms are easily confused with a number of other diseases and disorders so it is always best to submit a sample. The most effective control (though it will not eliminate the disease, just reduce its severity) is applying a copper fungicide in mid May as the new growth expands and repeat the application in late June and mid-July.

Walworth County
It looks dead.

What is wrong with this maple?

The samples are only the leaves so there is probably other problems occurring with these trees that cannot be identified from a leaf. The leaves are infected with the fungal disease maple anthracnose. This is a common problem in 2010 due to the wet spring. However, I doubt this is (or will be) the only problem as these trees are Norway maples, a species not well-adapted to Mobridge. I do find a few nice specimens in town but generally our hot summers and cold winters limit their life. There is nothing that needs to be done about the anthracnose and nothing that can be done about the climate. They might consider just planting another tree.

Yankton County
pine?

What is wrong with the Scotch

This is not dothistroma needle blight. There were no signs or symptoms on any of the needles submitted. Considering how dry the shoots were and the brown wilted needles I suspect the problem may be the disease pine wilt. This is a common disease of Scots pine and Austrian pines in Nebraska and the southern portion of South Dakota. It first appeared in the early 1980s in the Lake Andes area and we usually find a few infected trees in your area every year or so. The real pine wilt hotspot in the state is the southwest, Bennett, Shannon, Fall River, and even Pennington where the disease is almost eliminating Scots and Austrian pine. It has even been found in mugo pines in the Hot Springs area. The disease can also be found in ponderosa pines (in fact the disease is generally considered to be due to a native nematode, not an introduced pest) but it rarely causes any problems for that species. I can culture for the nematode but this will require a better sample. I'll call you with more information on what needs to be sent.